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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,527	08/13/2001	Joon-Bo Choi	Q65109	6218

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SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
Suite 800  
2100 Pennsylvania, N.W.  
Washington, DC 20037-3213

EXAMINER

AMINZAY, SHAIMA Q

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 05/13/2004

2

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/927,527

Applicant(s)

CHOI ET AL.

Examiner

Shaima Q. Aminzay

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 30-34 is/are allowed.  
6) ☒ Claim(s) 1-27, 29, 35 is/are rejected.  
7) ☒ Claim(s) 28 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## Detailed Action

1. This is the second Action, application filed on 8/13/2001,  
Foreign Priority Date: 8/12/2000
2. Independent claims 1, 10, 15, 19, 27 and dependent claims 2-9, 11-14, 16-18, 20-26, 29, and 35 are pending in the case.
3. Independent claim 30, and dependent claims 31, 32, 33, and 34 are allowed.
4. Dependent claim 28 is objected.
5. The present title of the application is "Apparatus and method for optimizing transmission power of network"

## NON-FINAL ACTION

### Claim Rejections - 35 USC § 102

- ◆ The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- ◆ Claims 1, 2, 3, 4, 5, 10, 11, 12, 13, 19, 21, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsunehara et al. U. S. Patent 6483816.

6. Regarding claim 1, 2, Tsunehara teaches optimizing transmission power of a network (see for example, column 1, lines 8-12, column 2, lines 22-25, and column 4, line 22), a communication unit for sending and receiving a data packet through wireless transmissions (see for example, column 3, lines 64-67 continued to column 4, lines 1-8, and Figure 3; the communication unit is consists of receiver (32), and transmitter (49 (48, and 57a-57n)), and power measuring unit for measuring reception power of the data packet received at the communication unit (see for example, column 4, lines 22-31), and a control unit for requesting an adjustment of transmission power to a slave that sends the data packet based on the reception power of the data packet measured through the power measuring unit and a reception status parameter of the data packet. (see for example, column 4, lines 54-67 continued to column 5, lines 1-14; the mobile station is the slave and base station is the master consists of control unit such as blocks 47 and 41 in Figure 3).
7. Regarding claim 3, and 12, Tsunehara teaches claims 1, 10, and further teaches an error correction rate (see for example, column 4, lines 32-36), and a bandwidth loss and a delay is used as the reception status parameter (see for example, column 7, lines 54-58).
8. Regarding claim 4-5, 11, 13, and 35, Tsunehara teaches claims 1, 10, and further teaches the control unit measures a reception link quality through the reception status parameter compares the reception link quality with a predetermined reference link quality and requests the adjustment of the

transmission power of the slave based on a comparison result (see for example column 4, lines 65-67 continued to column 5, lines 1-14).

9. Regarding claim 10, Tsunehara teaches optimizing the transmission power in a network (see for example, column 1, lines 8-12, column 2, lines 22-25, and column 4, line 22), a communication unit for sending and receiving a data packet through wireless transmissions (see for example, column 3, lines 64-67 continued to column 4, lines 1-8, and Figure 3; the communication unit is consists of receiver (32), and transmitter (49 (48, and 57a-57n)), and a power measuring unit for measuring reception power of the data packet received at the communication unit (see for example, column 4, lines 22-31), and a control unit for requesting an adjustment of transmission power of a slave that sends the data packet based on the reception power of the data packet measured through the power measuring unit and a reception status parameter of the data packet (see for example, column 4, lines 54-67 continued to column 5, lines 1-14; the mobile station is the slave and base station is the master consists of control unit such as blocks 47 and 41 in Figure 3), and measuring a reception link quality of the slave (mobile stations) through the reception power of the data packet measured from the power measuring unit (see for example, Figure 3, 39) and the reception status parameter of the data packet when the data packet is received through the communication unit (see for example, column 4, lines 32-53, describes the measuring reception link quality between master and slaves); and sending a transmission power adjustment requesting message to the slave

based on the reception link quality (see for example, column 4, lines 48-53, and column 5, lines 10-14).

10. Regarding claim 19, 21, Tsunehara teaches optimizing the transmission power in a network (see for example, column 1, lines 8-12, column 2, lines 22-25, and column 4, line 22), and determining a reference transmission power between a master and a plurality of slaves by comparing linkage information received from one of the plurality of slaves with an acceptable quality (see for example, column 4, lines 42-53; determining a reference transmission power between a master (base station) and a plurality of slaves (mobile stations)); and optimizing the transmission power between the master and the plurality of the slaves (see for example, column 6, lines 8-16; the power is transmitted via antenna 30 to the slaves (mobile stations)).

### **Claim Rejections - 35 USC § 103**

- ◆ The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) Patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- ◆ Claims 6, 7, 8, 9, 14, 15, 16, 17, 18, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunehara et al. U. S. Patent 6483816, and in view of Honkasalo U. S. Patent number 5995496.

11. Regarding claim 15, 18, 27, and 29, Tsunehara teaches optimizing the transmission power in a network (see for example, column 1, lines 8-12, column 2, lines 22-25, and column 4, line 22), a communication unit for sending and receiving a data packet through wireless transmissions (see for example, column 3, lines 64-67 continued to column 4, lines 1-8, and Figure 3; the communication unit is consists of receiver (32), and transmitter (49 (48, and 57a-57n)); a power measuring unit for measuring reception power of the data packet received at the communication unit (see for example, column 4, lines 22-31); and a control unit for controlling the apparatus according to the contents of the data packet received through the communication unit to communicate with other apparatuses (see for example, column 4, lines 54-67 continued to column 5, lines 1-14; the mobile station is the slave and base station is the master consists of control unit such as blocks 47 and 41 in Figure 3), and updating the transmission power according to the contents of a request when a message requesting the adjustment of the transmission power is received through the communication unit (see for example, column 4, lines 36-53; according to requested message the transmission power is adjusted, such as in column 5, lines 1-9), and adjusting the transmission power through a power adjusting unit (Figure 3, 40) according to the updated transmission power when the data packet is transmitted to the slave (mobile station) that requests the adjustment of the transmission power (see for example, column 4, lines 54-67, and column 5, lines 10-14, the ), and determining the transmission power based on a comparison between the linkage

information received from the selected slave with an acceptable quality (see for example, column 4, lines 54-67, and column 5, lines 10-14, the mobile answer packet is generated).

However, Tsunehara does not teach the specifically the transmission power stored in a memory corresponding to the slave (cellular phone or mobile station).

Honkasalo teaches the transmission power stored in a memory corresponding to the slave (see for example, column 7, lines 30-34 (slave such as cellular phone or mobile station)).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Honkasalo's mobile communication system transmission power control (see for example, column 1, lines 5-10, column 4, lines 27-31) with Tsunehara's single base station to multiple mobile communication system to provide a system that the "plurality of mobile terminals share the same frequency band to communicate with a single base station (Tsunehara, column 1, lines 14-16), and to provide a "base station to control the transmission power in connection with the data transfer in a packet form" (Honkasalo, column 4, lines 29-31).

12. Regarding claim 6, 7, 8, 9, 14, 16, and 17, Tsunehara teaches claim 1, 10, 15, and further teaches optimizing the transmission power in a network (see for example, column 1, lines 8-12, column 2, lines 22-25, and column 4, line 22), and a power adjusting unit for adjusting the transmission power of the communication



unit (see for example, column 4, lines 54-67, and column 5, lines 10-14), and when the data packet is received through the communication unit requesting the adjustment of the transmission power (see for example, column 4, lines 22-31, the packet data is received through the communication unit (33)), the control unit accordingly updates the transmission power value that corresponding to the slave that requests the adjustment of the transmission power (see for example, column 5, lines 1-9, the received mobile transmission power value updated), and transmits the data packet to the requesting slave and outputs a control signal to the power adjusting unit for transmission power adjustment according to the updated transmission power (see for example, column 5, lines 10-15), and a memory for storing transmission power data of the slave.

However, Tsunehara does not teach the specifically the control unit with a memory for storing corresponding to t memory for storing transmission power data of the slave.

Honkasalo teaches the control unit with a memory for storing transmission power data of the slave (see for example, column 10, lines 44-57).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Honkasalo's mobile communication system transmission power control (see for example, column 1, lines 5-10, column 4, lines 27-31) with Tsunehara's single base station to multiple mobile communication system to provide a system that the plurality of mobile terminals share the same frequency band to communicate with a single base station

(Tsunehara, column 1, lines 14-16), and to provide a “base station to control the transmission power in connection with the data transfer in a packet form” (Honkasalo, column 4, lines 29-31).

- ◆ Claims 20, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunehara et al. U. S. Patent 6483816, and in view of Reed U. S. Patent number 6665549.

13. Regarding claims 20, and 23, Tsunehara teaches claim 19. However Tsunehara does not teach the HCI command.

Reed teaches the HCI (Host Controller Interface) that provides interface and control commands.

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Reed’s power control mobile system HCI command control firmware with Tsunehara’s control unit for single base station to multiple mobile communication system to provide a system that the plurality of mobile terminals share the same frequency band to communicate with a single base station (Tsunehara, column 1, lines 14-16), and to provide a mobile system that warns the user with notification “that the stored energy is getting low or is nearly depleted” (Reed, column 1, lines 35-36).

### ***Allowable Subject Matter***

- 14. Claims 30, 31, 32, 33, and 34 are allowed.
- 15. Claim 28 is objected.

### ***Reasons for Allowance***

- 16. The following is an examiner's statement of reason for allowance:

The prior art specifically Tsunehara, Honkasalo, and Reed, failed to render obviousness in combination or individually and failed to anticipate individually the following underlined limitations:

"(A) generating backup master information based on linkage information received from a plurality of slaves constituting the network; (B) sensing a master leaving the network; (C) determining a backup master according to an order of the backup master information generated by the step (A); (D) determining a reference transmission power between the backup master and the plurality of slaves; and (E) optimizing the transmission between the backup master and the plurality of slaves" as disclosed in claim 30.

"(i-3) determining a slave having the least strength of the linkage information as the slave for transmission power determination, according to the order determined in the sub-step (i-2)" as disclosed in claim 28.


(These limitations, or similar language, appear in each of the independent claims.) These limitations, in combination with the other limitations recited in the independent claims are not anticipated or suggested by the prior art.


### **Conclusion**

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
2. Anvekar, Mobile battery discharge minimization in indoor wireless networks by antenna switching.

### **Inquiry**

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 703-305-8723. The examiner can normally be reached on 7:00 AM -5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service telephone number is 703-305-3900.

  
Shaima Q. Aminzay  
(Examiner)

  
NAY MAUNG  
SUPERVISORY PATENT EXAMINER  
Nay Maung  
(SPE)  
Art Unit 2684

May 11, 2004